

to *Scanlon*. Claims 65-77 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ringdal* in view of U.S. Patent No. 3,144,827 to *Boutwell*.

The method of the present invention is novel and non-obvious. It is novel at least because no single piece of prior art discloses a method of making an ammunition article comprising the steps of injection molding plastic around at least a portion of a one-piece projectile to form a plastic cartridge casing body having a first end to which the projectile is attached and a second end.

Problems with prior art plastic cartridge casings are discussed in the present application at Pages 1-3, and include irregular bullet pull (insufficient or too great), and expense to due manufacturing techniques or multiple material constructions. Some prior art discloses forming separate projectiles and plastic cartridge casing bodies and fitting them together. This is a time-consuming operation that can result in less than perfect fits because the casings are not custom fit to each projectile. *Ringdal* discloses at Col. 2, lines 16-25, that:

[T]he projectile 7 is moulded or cast in the front end 3' of the case by being moulded together with the case at the same time as the latter is mounted in one piece. For securing the projectile the front end of the case is provided with a bead or flange 8, which engages a corresponding groove in the projectile. The rear end 9 of the envelope of the projectile is bent in, as shown, and moulded into i.e. embedded in the partition wall 6, so that the projectile is secured and tightly connected with the case.

Ringdal discloses an ammunition article of the prior art type involving a difficult manufacturing technique and multiple materials, i.e., a projectile including a main portion and an envelope around part of the main portion.

It is asserted in the Official Action that *Ringdal* does not disclose that the projectile 7 is a two-piece projectile. However, *Ringdal* makes references to the rear end 9 of *the envelope of the projectile* that is bent in and moulded into or embedded in a partition wall 6. Also, FIG. 2 clearly shows that the structure that is referred to as an “envelope” is a separate, apparently tubular component that is attached around a main component of the projectile 7 because the envelope is illustrated in cross-section while the portion of the projectile around which it is attached is not.¹ If the envelope and the portion of the projectile around which it is attached are not separate parts, then the portion of the projectile should have been illustrated in cross-section as well. Thus, there can be no reasonable dispute that *Ringdal* discloses a projectile 7 that has two pieces.

It was asserted in the Official Action “that the ‘comprising’ scope of the claim allows interpretation of the projectile to be a single piece projectile with an envelope around the single piece projectile.” This assertion ignores the express teaching of *Ringdal*, discussed above, and it ignores the fact that the inventor in *Ringdal* considered the invention to be an ammunition article with a projectile that comprises an envelope. See Claim 1. A typical definition of a “projectile” is as an object that is fired, thrown, or otherwise projected. When the ammunition article in *Ringdal* is fired, whatever it is that is projected out of the barrel of the gun includes an envelope, otherwise it would not have been appropriate to refer to the envelope of *the projectile*. Note that it is disclosed that the partition wall 6 in which the end of the envelope is embedded may be provided with score

¹The envelope shown in *Ringdal* is a separate piece in a sense that is not applicable to projectiles of the type wherein one material is molded to jacket a different core material.

lines and the like to assist in causing the partition wall to be blown out together with the projectile. Col. 23, line 25-28. The partition wall 6 will not be blown out unless the envelope is blown out as well, i.e., the envelope forms part of the projectile that is projected. Thus, it would be improper to ignore the presence of the envelope as being part of the projectile disclosed in *Ringdal*. As such, the fact that the claims are not drafted to preclude the presence of other structures does not mean that the a two-piece projectile as is disclosed in *Ringdal* is the same thing as a one-piece projectile as claimed.

It would not have been obvious to eliminate the envelope from the projectile. As best understood, the only function of the envelope is to assist in tightly securing the projectile 7 relative to the case 3. This function is retained in the present invention simply by injection molding plastic around at least a portion of a one-piece projectile to form a plastic cartridge casing body having a first end to which the projectile is attached. It is an indicia of nonobviousness to omit an element and retain its function. *See MPEP 2144.04.II.B.*

It would not have been obvious to make the envelope and the main portion of the projectile into an integral projectile. By using a separate envelope around a bottom of the main portion of the projectile it was possible to use a material for the envelope that is more easily bent over at the bottom end to facilitate forming a flange for embedding in the partition wall. By the method of the present invention, the need for a portion of an envelope that can be bent over is eliminated, so there is no longer any reason to provide a special material for an envelope and, therefore, no need for a separate envelope.

In view of the differences between claim 59 and *Ringdal*, it is respectfully submitted that claim 59 is not anticipated by and defines patentably over *Ringdal*. With respect to the other rejections, assuming for the sake of argument that one might somehow combine the cited secondary references with *Ringdal*, none of the secondary references cure the defects of *Ringdal* discussed above with regard to claim 59 and, therefore, claim 59 and the claims dependent therefrom define patentably over *Ringdal* whether considered alone or in combination with the cited secondary references.

It is respectfully submitted that all of the claims presently under consideration, Claims 59-77, are in condition for allowance. Allowance is cordially urged.

If the Examiner should be of the opinion that a telephone conference would be helpful in resolving any outstanding issues, the Examiner is urged to contact the undersigned.

Respectfully submitted,

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